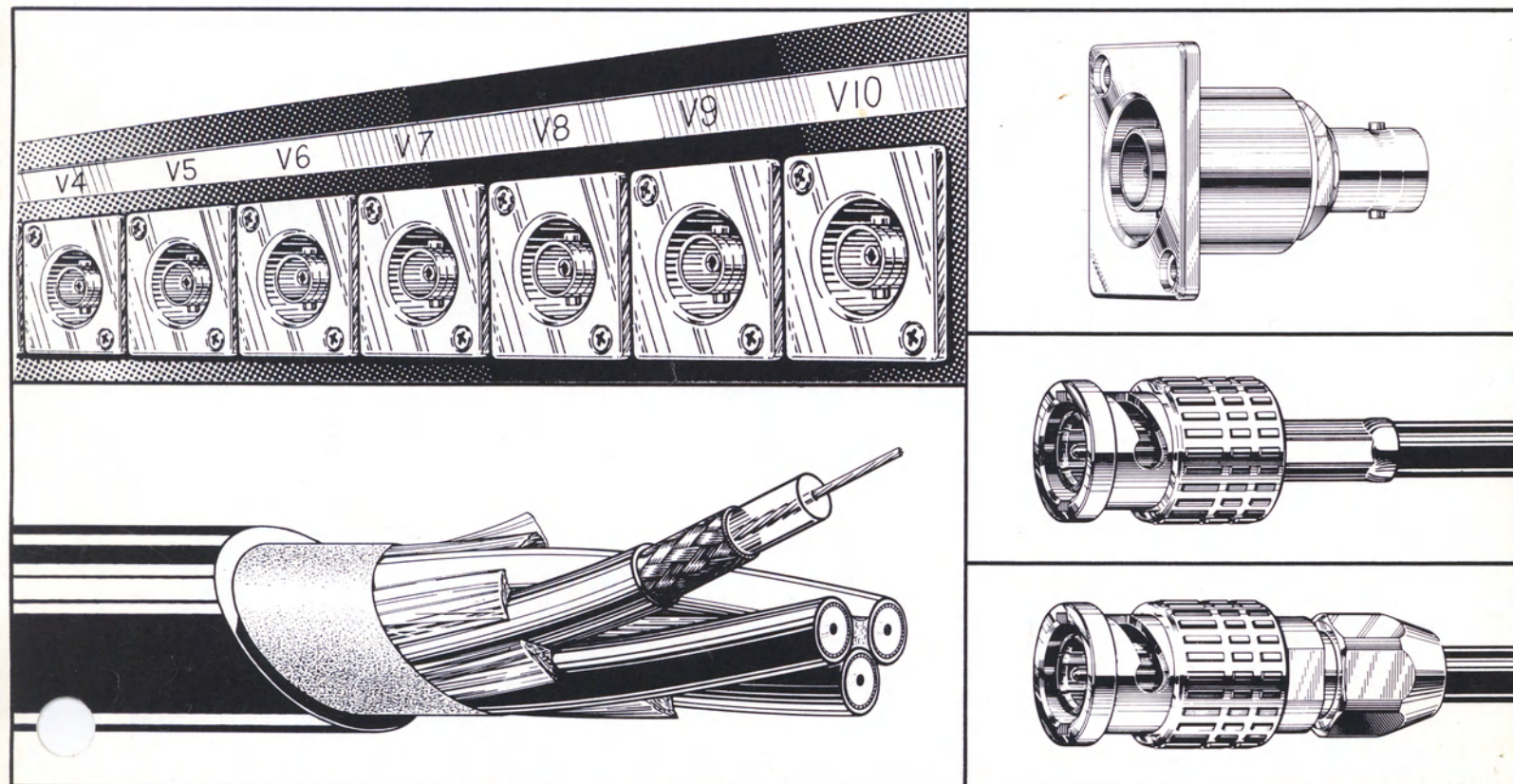


# **GANARE** <sup>T.M.</sup>

## **CONNECTORS & CABLE**

BNC Type 75 Ohm Connectors  
V-Series/Multi-channel Video Coaxial Cable





## New Products

Canare continues its tradition of manufacturing high quality cable related products, with the introduction of **75 ohm BNC Connectors and V-Series/Multi-channel Component Video Cable**. These new items have been specially designed for the discriminating professional user who demands accessories to match today's high performance video equipment.

## Features & Technical Memo

### PROBLEM

Most of the 75 Ohm video coax cable in use today is terminated with 50 Ohm BNC connectors. Although this pairing is adequate for lower frequency bandwidths (such as standard color broadcast transmissions), this mismatch will result in signal degradation and less than ideal picture quality at today's ultra high transmission registers.

### SOLUTION

Recognizing this paradox between cable vs connector impedance, Canare now offers an all new line of proprietary 75 Ohm BNC connectors in both crimp and screw type versions. These connectors can successfully be used for standard broadcast transmission as well as; HDTV (High Definition Television), Computer Graphics, and Digital VTRs (Super-VHS).

### FEATURES INCLUDE:

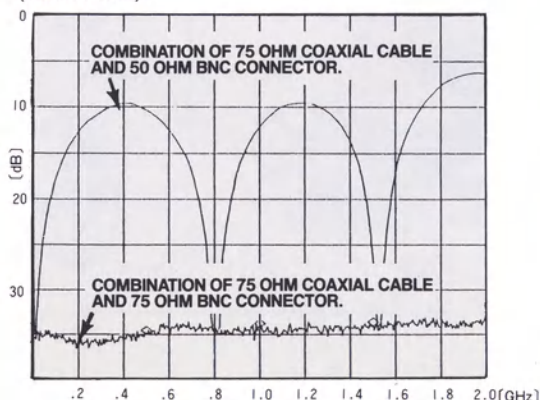
- Discontinuity compensated circuit design maintains low VSWR characteristics (less than 1.1) up to 2 GHz.
- Excellent cable tensile strength (greater than 55 lbs connector/cable pulling strength).
- Gold coated center contact pin.
- External contact of Beryllium Copper.
- Correct Impedance match when using 75 Ohm Coax Cable.
- Long Throw Connector Body for Quick & Easy Handling.
- Unique Center Contact Design Prevents migration of pin (cause of most BNC connector failure).
- Audible snap on pin insertion to confirm assembly.
- Elongated Crimp Sleeve Reduces Cable fatigue.
- Will interface with other manufacturers BNC connectors.
- Precision manufactured to exacting tolerances.

### TECHNICAL MEMO

#### USING 75 OHM BNC CONNECTORS FOR VIDEO LINES

An impedance mismatch between a coaxial cable and connector, can result in an increase in total attenuation as well as cause a poor VSWR (Voltage Standing Wave Ratio). For example, terminating a 50 ohm connector to each end of a 75 Ohm cable would produce an equivalent return loss as shown in the graph. These losses become most noticeable when using 'state of the art' systems that utilize the higher frequency registers; High Definition TV(30MHz), Digital VTR(200MHz), Super High Definition Video Displays (300MHz). Canare now offers BNC connectors for all your present and future video equipment requirements.

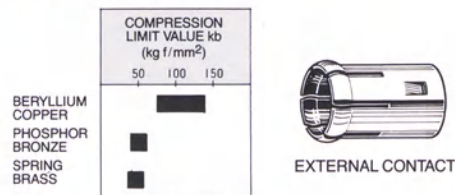
Referring to the chart; Using a 50 Ohm connector with 75 Ohm coax cable results in heavy losses at upper frequencies. But when properly matched using Canare 75 Ohm BNC connector, there is a definite, measurable improvement; at 2GHz loss is <30db (VSWR 1.06).



Influence by impedance matching and mismatching.

### BERYLLIUM COPPER FOR OUTER CONTACT

Most manufacturers use common Brass for their outer contact material. It is inexpensive and easily formed, but its lack of elasticity causes contact failure. Canare has chosen Beryllium Copper for the outer contact of our 75 Ohm BNC connectors. Although more costly and exotic, its reliability is unsurpassed for frequent put-on and removals.

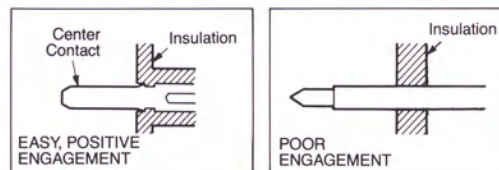


CHARACTERISTICS OF COPPER ALLOYS USED FOR SPRINGS.

Using beryllium copper for external contact.

### CENTER PIN CAPTIVE CONSTRUCTION DESIGN

The leading cause of coaxial connector failure is due to the center pin moving inside the housing. To prevent this, Canare has designed a pin that mechanically fixes center contact to surrounding insulation. As a bonus, there is an audible "Click" when the pin is inserted into the housing. Assembly in low light conditions is a snap!



Fixing center contact in insulation.

### ERGONOMIC LONG BODY SLEEVE

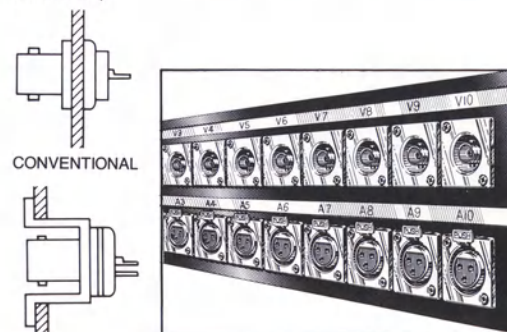
Canare has made the connector sleeve twice as long as most common BNC connectors. Our long body BNC connectors make frequent application and removal an easy twist.



Sleeve length comparison.

### DAMAGE PREVENTING BULKHEAD CONNECTOR

Because ordinary panelmount BNC connectors are precariously exposed, they offer little protection from physical damage. To solve this problem, Canare has developed a unique recessed panelmount design that effectively protects the housed connector. (Mounting flange is the same size as a Cannon XLR-F77 connector).



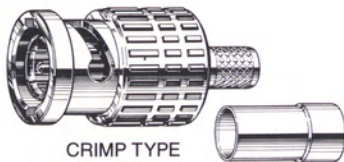
CANARE BCJ-RU

Connector mounting construction comparison.



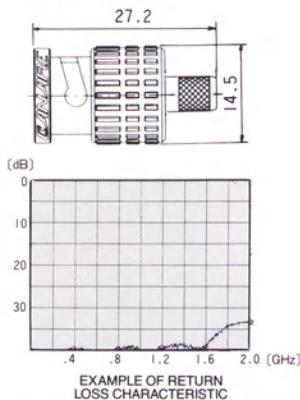
# Canare 75 Ohm BNC Connectors

## BCP-C3

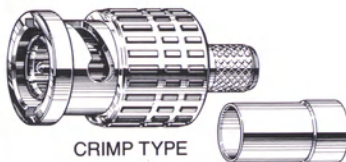


CRIMP TYPE

For use with: Canare Remote Video Camera Cable and "NEW" V-series/Multicoax Videocable (3C-2V).

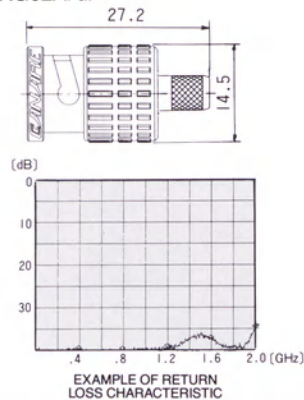


## BCP-C4



CRIMP TYPE

For use with: Canare LV-61S 75 Ohm Coax Cable and ANY Standard RG-59B/u, RG62A/u.

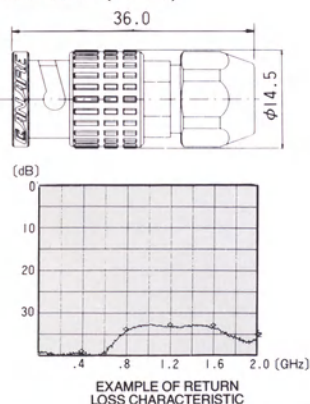


## BCP-S3

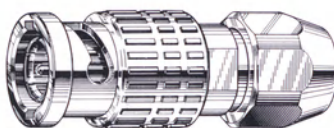


SCREW TYPE

For use with: Canare Remote Video Camera Cable and "NEW" V-series/Multicoax Videocable (3C-2V).

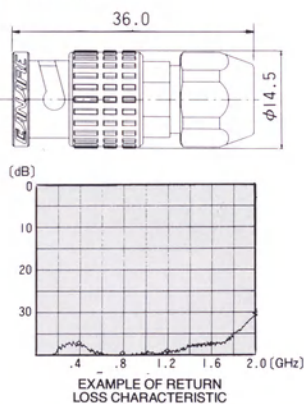


## BCP-S4

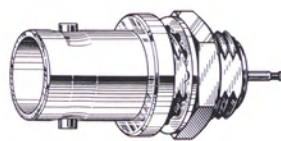


SCREW TYPE

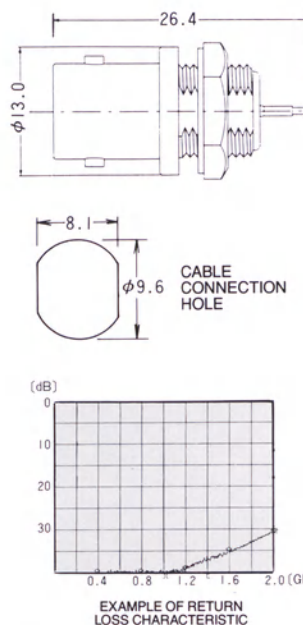
For use with: Canare LV-61S 75 Ohm Coax Cable and ANY Standard RG-59B/u, RG62A/u.



## BCJ-R



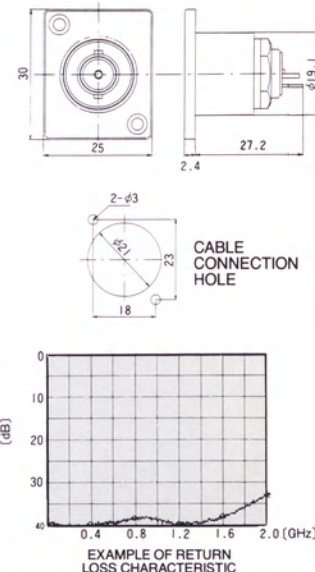
Female panelmount to solder pin.



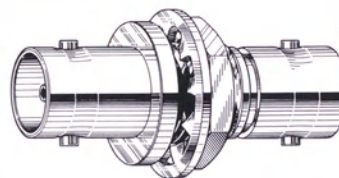
## BCJ-RU



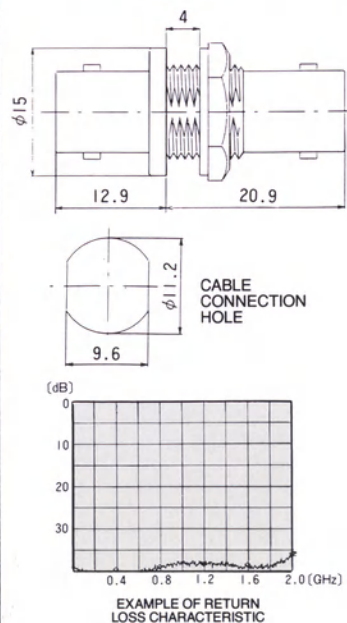
Female RECESSED panelmount to solder pin.



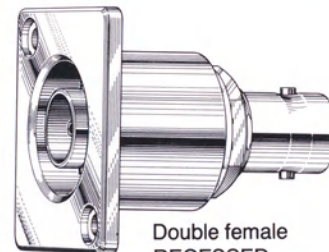
## BCJ-JR



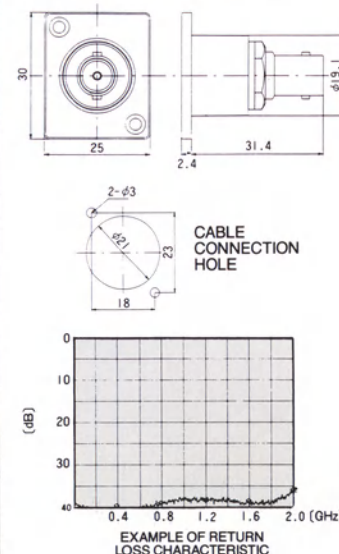
Double female panelmount.



## BCJ-JRU



Double female RECESSED panelmount.



### TYPICAL CONNECTOR SPECIFICATIONS & PERFORMANCE

Characteristic impedance: 75 ohms

Frequency range: DC to 2 GHz

#### PERFORMANCE:

VSWR: 1.1 or less up to 2 GHz

Insulation resistance: 1000 Mohms or more at 500 VDC

Rated voltage: 1500 VAC (rms) for 1 minute

#### CONTACT RESISTANCE:

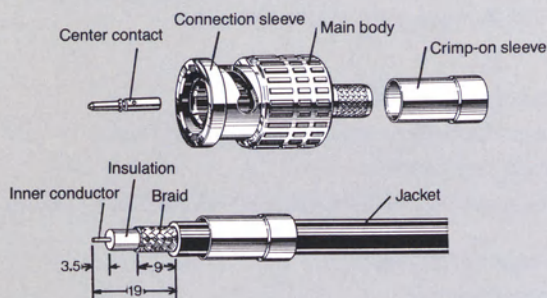
External contact: 3 Mohms or less

Center contact: 6 Mohms or less



# Easy to assemble Canare BNC Connectors

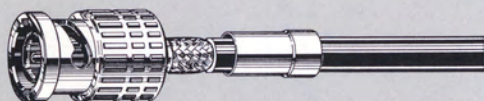
## Assembly by crimping (BCP-C series)



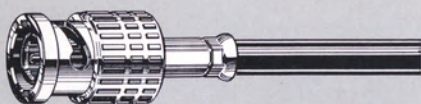
- (1) Cut away the jacket, braid, and insulation of the coaxial cable as shown above and slide the crimp sleeve over jacket.



- (2) Place the center contact over inner conductor and crimp with a crimping tool.
- (3) Flair the braid to make insertion of the main body under braid easier.



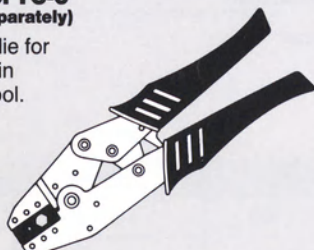
- (4) Insert the center contact into the main body until it snaps in. Check by pulling the coaxial cable lightly to see if it is firmly in position.



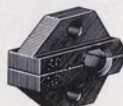
- (5) Slide the crimp-on sleeve against housing and form hex with a crimping tool.

### Crimping tool TC-0 (dies are sold separately)

Use a proper die for the cable size in the crimping tool.

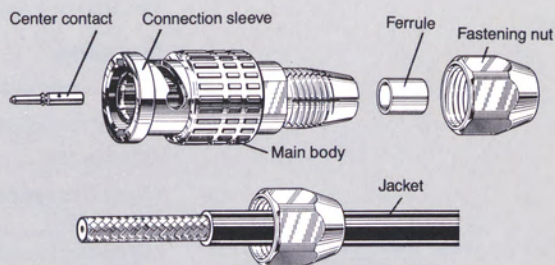


### Crimping tool dies:

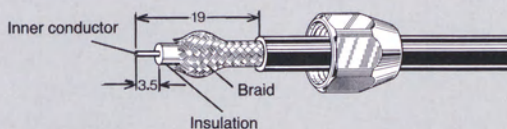


TC-D-3C ..... For 3C-2V  
TC-D-4C ..... For RG59B/u & RG62A/u

## Assembly by screwing (BCP-S series)



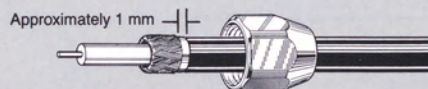
- (1) Cut away the jacket of the coaxial cable as shown above and slide the fastening nut on the cable.



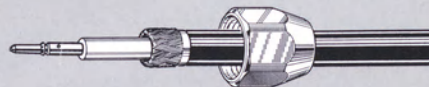
- (2) Push back the braid as shown above and cut away the insulation.



- (3) Straighten out the braid as it was before and squeeze the tip to feed through a ferrule. Push the ferrule until it is against the jacket.

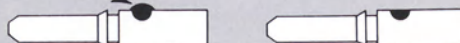


- (4) Turn back the braid over the ferrule and smooth it out. Cut away the end of the braid leaving approximately 1 mm of the ferrule edge showing.



- (5) Insert the center contact into the inner conductor of the cable and solder it on without leaving any gap between the contact and insulation. Use the finest tip on your solder iron.

Solder must not be showing



- (6) Insert the center contact into the main body until it snaps in. Then check by pulling the coaxial cable lightly to see if it is seated firmly.
- (7) Screw on the fastening nut with a wrench (BCP-S3: 10 mm and 11 mm; BCP-S4: 10 mm and 13 mm).

V-series  
Multi-channel Video Cable

V3-3C  
V4-3C  
V5-3C

Canare listened to your professional needs and has developed a multi-channel cable that is designed for today's high definition video systems. The all new V-Series can be used for Component (RGB) broadcast systems, Computer Graphics and Video patching. Best of all, you can select the channel group combination that fits your installation requirements.

FEATURES:

- 75 Ohm high definition video coax (3C-2V NHK Standard).
- Super flexible (stranded conductor) for handling ease, and smooth cable layout.
- Choice of 3, 4, or 5 channels in a common jacket.
- Easy channel color code identification (RED, GREEN, BLUE, SYNC/WHITE or YELLOW available).
- Multi-channel cable design maintains circuit phase.
- Keeps cable runs neat, safe and uncluttered.
- High density shield blocks stray RF and electrostatic noise.
- Use with Canare BCP-C3, 75 Ohm, BNC connectors.



Model	No. of Chan.	Std. Length	Wt. (lbs./1000')	Nom. O.D.	Channel Construction						Electrical Characteristics					
					Jacket O.D.	Inner Conductor		Insulation		Shield		Nom. D.C.R. (Ω/1000')	Shield D.C.R. (Ω/1000')	Nom. CAP. (PF/1000')	Nom. Imp. (Ω)	Nom. Atten. (dB/1000')
						Cond. Strand (Qty./mil.) Cross Sec. Area (mil. <sup>2</sup> ) A.W.G. size	Nom. O.D. (mil.)	Nom. Thick (mil.)	Nom. O.D. (mil.)	Shield Strand (Mils./Qty./Pitch) Shield Coverage (%)	Pitch (in.)					
V3-3C	3	100 m	101	0.46" (11.5 mm)	.169" (4.3 mm)	7/7.09 279 #25	21.3	51.2	123.7	5.52/5/24 97	<1.1	32.1	3.7	21	75	15.0
V4-3C	4		135	0.52" (13.0 mm)												
V5-3C	5		162	0.56" (14.2 mm)												

STANDARD ATTENUATION VALUE  
(PER 100 FEET)

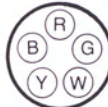
4.5 MHz	10 MHz	50 MHz
0.95 dB	1.49 dB	3.17 dB



V3-3C



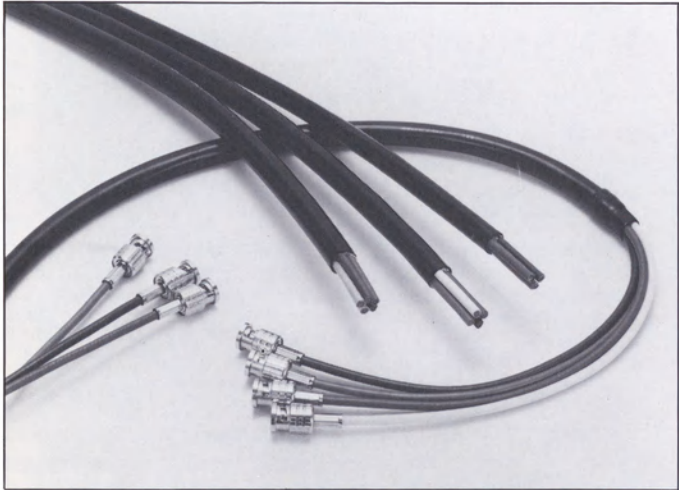
V4-3C



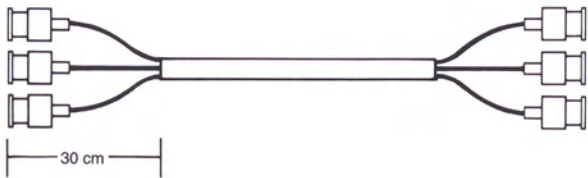
V5-3C

Red  
Green  
Blue  
White  
Yellow

Video Fan Tail



For added convenience, Canare also offers a preassembled Fan to Fan version in various lengths, terminated with Canare's exclusive BCP-C3 75 Ohm BNC connectors, for cable matching impedance.



MODEL	LENGTH	CONNECTORS
3VSO3-3C	3m	CANARE 75 OHM BNC BCP-C3
3VSO5-3C	5m	
4VSO3-3C	3m	
4VSO5-3C	5m	
5VSO3-3C	3m	
5VSO5-3C	5m	

NOTE: 1 cm = .39"  
1 m = 3.28'





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(818) 840-0993